High Plains Regional Education Cooperative
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New Mexico Broadband Consortia
Expression of Interest
Submitted by High Plains Regional Education Cooperative (HPREC) and New Mexico Public Education Department (NMPED)

Federal Communication Commission
Attn: Rural Broadband Experiments Programs
445 12th Street SW
Washington, DC 20554

Title:
Statewide New Mexico Broadband/Education Project

Facts:
Fifty nine (59) percent of towns in New Mexico are considered rural (i.e., less than 2,000 residents). According to Rural School and Community Trust (2012), New Mexico has one of the nation's most diverse rural student populations. Specifically, eight out of ten rural students are minorities, eight in ten live in poverty, nearly 14% are English Language Learners, and more than one in ten has changed residences in the previous 12 months. Twenty-two tribal nations reside in New Mexico.

Education, healthcare, and economic development are three critical sectors that impact the lives of all New Mexicans, and all those sectors rely on technology. That reliance includes high-speed, reliable, broadband infrastructure, as well as a huge array of technology applications. Yet, New Mexico ranks in the bottom quarter of states with minimally adequate broadband.[1] Even more critical is the lack of broadband in rural areas where 25% of the state's population and 39% of the businesses reside.[2] It was estimated in 2012 that nearly half (47%) of the New Mexico rural population did not have access to adequate broadband, twice the national average.[3] While officially only 5% of the New Mexico urban population lack broadband access, this figure is actually much higher outside the immediate metropolitan areas. Representatives

[1] (NM Department of Information Technology, 2012) Minimally adequate in this context means at least 4Mbps download speed and 1 Mbps upload speed.
[2] (U.S. Census Bureau, 2010), (NM Dept. of Workforce Solutions)
[3] (U.S. Department of Commerce, 2011)

from Albuquerque, Santa Fe, Las Cruces, and Farmington reported a lack of access in the less populated areas of their counties.[4]

Current Situation:
To ensure that all students in New Mexico are college or career ready, New Mexico has adopted the new Common Core State Standards (CCSS), which will provide students the content knowledge and skills to compete in a global economy. Beginning in Spring of 2015, New Mexico will use a new online assessment program called Partnership for Assessment for Readiness for College and Career (PARCC) to measure student's success at mastery of these essential standards. In a 2013 survey (New Mexico Department of Information Technology), most schools reported that they have basic broadband access, however, only 50% of schools reported that they have sufficient connectivity to support PARCC testing and engage in technology-rich learning experiences. Almost 40% of New Mexico's rural schools currently do not have the ability to demonstrate the required bandwidth (55Kbs/sec/student) to support computer-based testing on the internet. This is due to the lack of broadband availability, infrastructure needs, and funding constraints. A significant obstacle is the cost to provide these services to rural New Mexico. Service providers are often unwilling to invest in these areas due to the low population and take rates in these rural areas. Another challenge is the fact that many schools have obsolete equipment and need new equipment to meet current and future technology demands. The New Mexico Public Education Department estimates that for the first year of PARCC testing, approximately 10,000 new computers will be needed in schools. An additional 20,000 computers will be needed in the subsequent year (once Windows XP machines are no longer allowed).

According to New Mexico Department of Information Technology (2013)," …there are a great many financial factors that affect the ability of school districts to better deploy technology. Paying for adequate connectivity is a challenge for urban and rural districts, but rural schools face unique challenges. Broadband access is more expensive in rural New Mexico than urban areas. The federal E-Rate program covers these costs for some districts, but even those districts must pay 10% to 20%. Changes in E-Rate rules moved maintenance contracts into "Priority 2" classification. This means that in all likelihood they will not be funded, leaving the districts to cover that significant cost themselves or function without the coverage. In addition, since rural school districts tend to be the farthest behind in their connectivity, the cost to upgrade by 2015 to meet the requirements of PARCC testing has a higher impact."

Education, healthcare, and economic development are absolutely intertwined. The economy cannot grow without a prepared workforce, and new businesses choose to open in locations where they can enjoy powerful education systems, as well as solid healthcare networks. Our project will enable government and industry to develop technology initiatives to bolster education, healthcare, and economic development in New Mexico – and thus strengthen the state as a whole.

Statewide shortages of healthcare providers, coupled with New Mexico's large rural and tribal populations, make it difficult to provide effective and responsive healthcare to these rural areas. Thus, with a statewide broadband network the use of technology in healthcare will continue to grow including the adoption of telehealth and health information exchanges. Once established, these practices will: (a) improve the individual patient's experience, (b) enhance community health with better outcomes, and (c) decrease healthcare costs.

[4] (NM Broadband Interviews, 2013)

Economic development is also at the core of this project. The importance of broadband for economic development in New Mexico is paramount in promoting New Mexico's economic commerce, potentially creating jobs and new industries, and improving existing businesses' access to local, regional, national, and international markets. **In a 2013 survey, 44% of the economic development survey respondents reported that internet service in their area is inadequate to meet current business needs, with lack of infrastructure being the top-cited cause by far.**

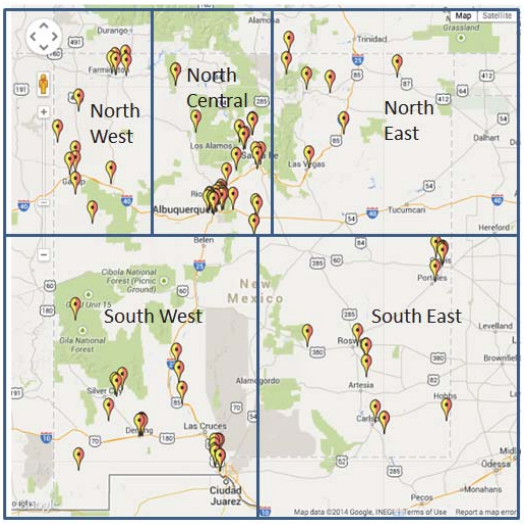
Project Goals:
The ultimate goal of the project is to create a statewide network and infrastructure to ensure equal access for all students to ensure that they are college and career ready, as well as provide communities the necessary connectivity and infrastructure to meet healthcare, educational, and ongoing economic development needs.

Specific goals include:

- All schools will have the backbone, last mile and internal infrastructure to be PARCC ready and have the capacity for technology-rich learning experiences that are currently not available in rural schools.
    - Provide adequate bandwidth, both to the backbone and between school district facilities.
    - Provide wired and wireless delivery within rural schools.
    - Provide the software and hardware within schools to meet the current and future needs of a technology-rich learning environment.
    - Provide systematic and research-based online professional development to rural schools to increase student outcomes, graduation rates, and prepare all students to be college and career ready.
- All communities will have the connectivity needed to engage and increase the quality, comprehensiveness, and effectiveness of healthcare specifically in rural communities.
- All communities will have the connectivity needed to promote economic development.

Target Population:
New Mexico's Broadband Consortia will provide full services to 143 (100%) of New Mexico's school districts and charter schools (33 counties) with a targeted focus on the 57% rural communities.

Project Activities:
In order to ensure that every New Mexico school is PARCC-ready, procurement and installation of backbone, last mile and sufficient internal infrastructure is paramount. Meeting this timeline requires a community-based approach that engages not only school and district level leaders, but also the expertise of community and state organizations including New Mexico Department of Information Technology (DoIT) and other industry technology partners.



Specifically, the project will require the installation of a statewide broadband network with built in redundancy. The last mile network will cover all counties within New Mexico, ensuring access to all

rural towns and villages. Targeted capacity will be 50 mbps to the home and 1 gig to each community anchor institution, healthcare facility, and school within a three year period.

Pilot: We propose a pilot project be completed no later than one year after funding. 300 schools in five regions will be built out to the school level. The balance of the network will be built in years two and three of the budget. The pilot project will also include project management and oversight, equipment, engineering, staff development and salaries, and the development and implementation of online professional development for rural schools.

Budget:

Pilot Budget = $128,850,000
Last Mile: $25,000,000
Connections to Each School and District Office: $78,750,000
Project Management (HPREC & NMPED) and Engineering: $17,600,000
Staff Development and Salaries: $5,000,000
Online Professional Development, Courseware Development, Implementation, and Oversight (HPREC): $2,500,000

Project Budget = $372,850,000
Last Mile: $55,000,000
Connections to Each School and District Office: $250,000,000
Project Management (HPREC & NMPED) and Engineering: $51,850,000
Staff Development and Salaries: $10,000,000
Online Professional Development, Courseware Development, Implementation, and Oversight (HPREC): $6,000,000

Project Budget = $501,700,000

With respect, we submit this proposal to bring critically needed broadband infrastructure to New Mexico schools, anchor institutions, healthcare facilities, and communities. The projected budget is subject to further analysis, as well as comprehensive engineering and vendor negotiations.

Together, HPREC, NMPED, and the FCC can bring much-need connectivity to rural schools in New Mexico. Thank you for your consideration. We look forward to your feedback.

Respectfully,

Statewide New Mexico Broadband Consortia
High Plains Regional Education Cooperative (HPREC)
New Mexico Public Education Department (NMPED)

High Plains Regional Education Cooperative

NM Public Education Department